

IN THE CLAIMS:

Please amend claims 144, 148, 151, 153, 154, 160, 162, 166, 168-174 so that they read as follows.

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144. (Amended) A method of automatically inspecting matter for varying composition, comprising advancing a stream of said matter through a detection station, irradiating with electromagnetic radiation comprising electromagnetic radiation a section of said stream at said station, scanning said section and determining the intensity of electromagnetic radiation of selected wavelength(s) received from portions of said stream, and obtaining detection data from said detection station, wherein said scanning is performed in respect of a plurality of discrete detection zones distributed across said stream and said determining is performed for each detection zone in respect of a plurality of said wavelengths simultaneously.

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148. (Amended) A method according to claim <sup>172</sup>~~147~~, wherein each of the first and second streams at its said transverse section comprises objects distributed across the stream.

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151. (Amended) A method according to claim 172, and further comprising utilising the first and second detection data to separate from the respective first and second streams respective first and second fractions comprised of said constituent of said first stream and said constituent of said second stream, respectively.

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153. (Amended) A method according to claim 172, wherein said constituent of said first stream is of substantially the same composition as said constituent of said second stream.

154. (Amended) A method according to claim 172, wherein said constituent of said first stream is of significantly different composition from said constituent of said second stream.

B15 160. (Amended) Apparatus according to claim 175, wherein the first and second emitting means are so arranged as to extend across both of the first and second streams.

B16 162. (Amended) Apparatus according to claim 175, wherein said receiving device is so arranged as to extend across both of the first and second streams.

B17 166. (Amended) Apparatus according to claim 175, wherein said receiving device comprises a multiplicity of metal-sensing means arranged so as to be discretely distributed across the first and second streams and serving to detect metal portions constituting the constituent(s) of at least one of the first and second streams.

ε 168. (Amended) Apparatus according to claim 174, wherein said emitting means which serves to generate an electromagnetic field comprises an antenna extending across said advancing means at said metal-detection station.

B18 ε 169. (Amended) Apparatus according to claim 174 or 168, wherein said advancing means is situated between said emitting means and said receiving means for the field.

170. (Amended) Apparatus according to claim 174, wherein said emitting means is connected to an oscillator, whereby said electromagnetic field oscillates, and wherein said sensing devices are electromagnetic field frequency sensing devices.

171. (Amended) Apparatus according to claim 174, wherein said data-obtaining means serves to construct from the detection data from said electromagnetic field sensing devices a two-dimensional simulation of said matter passing through said detection station.

B19 172. (Amended) A method of automatically inspecting matter for varying composition, comprising passing through a detection station a first stream of matter, emitting detection medium to be active at a transverse section of said stream at said detection station, wherein <sup>said</sup> medium is varied by variations in the composition of said matter at said transverse section, obtaining from said detection station first

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detection data as to constituent of said first stream, passing a second stream of matter through said detection station simultaneously with said first stream, emitting detection medium to be active at a transverse section of said second stream at said detection station wherein the latter medium is varied by variations in the composition of matter of said second stream at the latter transverse section, and obtaining from said detection station second detection data as to a constituent of said second stream, and wherein the varied medium from both of the first and second streams is received by a receiving device common to both streams.

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174. (Amended) A method of automatically inspecting a stream of matter for varying composition, comprising ~~A method of automatically inspecting matter for varying composition~~, comprising which said stream passes, emitting means serving to emit a detection medium to be active at a transverse section of said stream at said station, receiving means at said station arranged to extend physically across substantially the width of said stream serving to receive detection medium varied by variations in the composition of said matter at said section, detecting means arranged to be in communication with said receiving means and serving to generate detection data in dependence upon the variations in said medium, and data-obtaining means connected to said detecting means and serving to obtain said detection data therefrom, wherein said station is a metal-detection station, said emitting means serves to emit electromagnetic field, and said receiving means comprises a multiplicity of electromagnetic field sensing devices arranged to be distributed across said stream.

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Add claim 176 as follows:

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176. A method of automatically inspecting matter for varying composition, comprising passing a stream of said matter through a detection station, emitting a detection medium to be active at a transverse section of said stream at said detection station, wherein said medium is varied by variations in the composition of said matter at said transverse section, receiving the varied medium from over substantially the width of the stream at a receiving device, and generating detection data in dependence upon the variations in said medium, wherein said transverse section comprises a multiplicity of individual detection zones distributed across substantially the width of said stream, and the detection data from said individual detection zones is used to